

IN THE CLAIMS

1. (Currently Amended) An inspection equipment comprising:
means for supporting a specimen and moving the specimen to a predetermined position of inspection;
means for projecting an ultraviolet light through an ultraviolet objective lens onto the specimen supported on the specimen supporting means;
an ultraviolet imaging means for detecting a reflected or transmitted light from the specimen illuminated by the ultraviolet light projecting means to pick up an image of the specimen;
means for projecting a visible light to the specimen supported on the specimen supporting means;
visible light imaging means for detecting a reflected or transmitted light from the specimen illustrated by the visible light projecting means to pick up an image of the specimen;
means for processing the images picked up by the ultraviolet imaging means and the visible light imaging means selectively in response to the defect size of the specimen; and
means for automatically selecting between the images picked up by ultraviolet imaging means and the visible light imaging means in response to the defect size of the specimen, the wavelength of the ultraviolet light emitted by the means for projecting an ultraviolet light, and the numerical aperture of the ultraviolet objective lens.
2. (Previously Presented) The equipment as set forth in Claim 1, wherein the image picked up by the visible light imaging means is processed and analyzed by the image processing means to inspect the specimen with a low resolution; and
the image picked up by the ultraviolet imaging means is processed and analyzed by the image processing means to inspect the specimen with a high resolution.
3. (Original) The equipment as set forth in Claim 2, wherein the image picked up by the visible light imaging means is processed and analyzed by the image processing means to inspect the low frequency component, and the image picked up by the ultraviolet imaging means

is processed and analyzed by the image processing means to inspect the high frequency component, thus dividing the band of a space frequency to be inspected.

4. (Previously Presented) The equipment as set forth in Claim 2, wherein:
the visible light imaging means comprises a lamp as a light source to project an incoherent light from the light source to the specimen; and
the ultraviolet imaging means comprises a laser as a light source to project a coherent light from the laser to the specimen.

5. (Original) The equipment as set forth in Claim 1, wherein images of different areas of the specimen are picked up by the ultraviolet imaging means and the images are compared with each other by the image processing means to inspect the specimen.

6. (Previously Presented) The equipment as set forth in Claim 1, further comprising:
a specimen placing mechanism for taking out the specimen having been carried in a predetermined container, from the container and placing it on the specimen supporting means;
and
a dedusting clean unit to keep clean the internal environment, wherein at least the specimen supporting means and specimen placing mechanism are provided inside the clean unit.

7. (Original) The equipment as set forth in Claim 1, wherein the ultraviolet imaging means comprises an ultraviolet laser source as a light source to project an ultraviolet laser from the light source to the specimen.

8. (Original) The equipment as set forth in Claim 7, wherein the ultraviolet laser source emits an ultraviolet laser having a wavelength of less than 355 nm.

9. (Original) The equipment as set forth in Claim 7, wherein the ultraviolet laser source is a solid laser.

10. (Original) The equipment as set forth in Claim 1, wherein the specimen is a semiconductor wafer having a predetermined device pattern formed therein.

11. (Previously Presented) The equipment as set forth in Claim 1, wherein the defect size of the specimen is determined by the wavelength of the ultraviolet light emitted from the means for projecting ultraviolet light and the numerical aperture of the ultraviolet lens used in the projecting means.

12. (Previously Presented) The equipment as set forth in Claim 11, wherein the image picked up by the visible light imaging means is processed and analyzed by the image processing means to inspect the low frequency component, and the image picked up by the ultraviolet imaging means is processed and analyzed by the image processing means to inspect the high frequency component, thus dividing the band of a space frequency to be inspected.

13. (Previously Presented) The equipment as set forth in Claim 11, wherein the visible light imaging means comprises a lamp as a light source to project an incoherent light from the light source to the specimen and the ultraviolet imaging means comprises a laser as a light source to project a coherent light from the laser to the specimen.

14. (Previously Presented) The equipment as set forth in Claim 11, wherein images of different areas of the specimen are picked up by the ultraviolet imaging means and are compared with each other by the image processing means to inspect the specimen.

15. (Previously Presented) The equipment as set forth in Claim 11, further comprising:

a specimen placing mechanism for taking out the specimen having been carried in a predetermined container, from the container and placing it on the specimen supporting means;
and

a dedusting clean unit to keep clean the internal environment, wherein at least the specimen supporting means and specimen placing mechanism are provided inside the clean unit.